# CURRICULUM VITAE

Name:	David P. Hajjar		
Place & Birth Date:	Lawrence, Massachusetts September 13, 1952		
Home Address:	50 Sutton Place South, Apt. 6A New York, N.Y. 10022 Tel: 646-649-4205		
Office Address:	Weill Cornell Medical College of Cornell University 1300 York Avenue New York, New York 10065 Tel: 212-746-6900; Fax: 212-746-4527 Email address: dphajjar@med.cornell.edu		
Education/Training:	M.S. (1977) Biochemistry Ph.D. (1978) Biochemistry University of New Hampshire, Durham, N.H. Post-Doctoral Fellow in Pathology		
	Cornell University Medical College Post-Doctoral Fellow in Biochemistry 1980-1981, Preceptor: Dr. Christian deDuve Laboratory of Biochemical Cytology The Rockefeller University		
Professional Experience:	Distinguished Professor of Pathology and Dean Emeritus of the Faculty 2013-present Weill Cornell Graduate School of Medical Sciences Cornell University 1300 York Avenue, New York, NY		
	<u>Jefferson Science Fellow/Foreign Affairs Officer</u> 2014-2015 (sabbatical leave) U.S. State Department Office of International Health and Disease 2201 C St, N.W. Suite 2734 Washington, D.C. 20520		

Senior Fellow, Strategic Science Policy/Diplomacy Program 2013-2014 Belfer Center for Science and International Affairs Harvard-Kennedy School of Government, Harvard University 79 JFK Street, Cambridge, Mass

<u>Frank Rhodes Distinguished Professor of Cardiovascular Biology and Genetics</u> 1997-2014 Weill Cornell Medical College, Cornell University 1300 York Avenue, New York, N.Y.

Dean of the Faculty 1997-2013 Weill Cornell Graduate School of Medical Sciences, Cornell University 1300 York Avenue, New York, NY

Senior Executive Vice Dean and Executive Vice Provost of Medical Affairs 2007-2012 Weill Cornell Medical College, Cornell University 1300 York Avenue, New York, NY

Vice Provost of the Faculty and Research Dean 2000-2007 Weill Cornell Medical College, Cornell University 1300 York Avenue, New York, NY

Director, Center of Vascular Biology 1995-2010 Weill Cornell Medical College, Cornell University 1300 York Avenue, New York, NY

Professor of Pathology and Biochemistry 1989-present Cornell University Medical College 1300 York Avenue, New York, NY

Associate Professor of Pathology and Biochemistry (tenured,1986), 1984-1989 Cornell University Medical College 1300 York Avenue, New York, NY

Assistant Professor of Pathology and Biochemistry 1981-1984 Cornell University Medical College, 1300 York Avenue, New York, NY Academic and Professional Honors:

Alpha Chi, National Honor Society, 1973 Phi Sigma Phi, Honorary Science Society, 1973 Phi Sigma, Biological Research Society, 1975 Who's Who in America, 1981 American Heart Association: Fellow, Council on Arteriosclerosis, 1982 Fellow, American Institute of Chemists, 1984 Tenured, Cornell University Medical College, 1986 Honorary Doctorate of Science (D.Sc), honoris causa, American International College, 1995 Sigma Xi Society National Lecturer, 1995 Chairman, Gordon Conference on Atherosclerosis, 1997 Honorary Fellow, Cornell University Medical College Alumni Association, 1997 Fellow of the AAAS, American Association of the Advancement of Science, 1997 Chairman, Keystone Conference on Inflammatory Paradigms and the Vasculature, 1999 Fellow, Royal Society of Medicine, 1999 Chairman, International Conference on Infection and Atherosclerosis, Cardiovascular Research Foundation, 1999 Chairman, Keystone Conference on Inflammatory Paradigms and Vasculature II, 2002 President, American Association of University Pathologists, 2001-2002 Who's Who In Medical Education, 2005 Honorary Doctorate of Humane Letters (D.Litt), honoris causa, University of New Hampshire, 2014 Chairman, Gulf Research Meeting on Science and Technology, Education and Innovation in GCC Countries, .....University of Cambridge, England, 2014 Foreign Policy Advisor, Brookings Institute, Washington, D.C., 2016-present

Awards:

National Merit Scholarship Award, 1969

American Chemical Society Award for Young Investigators, 1976 New Hampshire Heart Association Predoctoral Research Fellowship Award, 1976 U.S.P.H.S. Postdoctoral N.I.H. Research Fellowship Award, 1978 N.I.H. New Investigator Research Investigatorship Award, 1981 Andrew Mellon Foundation Teacher-Scientist Award, 1981, 1982 American Heart Association Established Investigator Award, 1984 American Society of Investigative Pathology (ASIP) Warner Lambert/Parke Davis Award, 1991 (for meritorious contributions in experimental pathology) American Society of Investigative Pathology (ASIP) Chugai Award, 2003 (for excellence in mentoring and scholarship) Fulbright Scholar Award, U.S. Department of State, 2010-2011 Jefferson Fellowship Award, National Academy of Sciences/ U.S. Department of State, 2014-2015

Weill Cornell Medical College Dedicated Service Award, 2014

#### Visiting Professorships in Vascular Biology/Pathology:

University of New Hampshire, Durham, NH, June, 1985 Wake Forest University, Winston-Salem, NC, June, 1986 University of Washington School of Medicine, Seattle, WA, Dec. 1988 Harvard University, Cambridge, MA, Nov. 1991 University of California, San Francisco, CA, Jan. 1993 Vanderbilt University Medical Ctr., Nashville, TN, May 1993 Washington University School of Medicine, St. Louis, MO, Nov.1993 Harvard Medical School-Brigham and Women's Hospital, Boston, MA, Jan. 1997 University of California, Berkeley, CA, March 1998 University of California, Los Angeles, CA, Feb. 1999: Bojun Visiting Professorship Tianjin Medical University, Tianjin, China, April 1999 Massachusetts Institute of Technology, Cambridge, MA, April 2006 Cornell University, NY State College of Veterinary Medicine, Ithaca, NY, March 2008 University of Naples, Naples, Italy, August 2009 University of Tokyo, Japan, November 2010 University of Rome, Italy, March 2011 University of Lugano, Switzerland, November 2011 University of New Hampshire, Durham, NH, April 2012

#### Scientific and Educational Society Affiliations:

American Chemical Society American Society of Biochemistry and Molecular Biology American Institute of Chemists American Association of Advancement of Science American Heart Association American Association of University Professors American Society of Investigative Pathology New York Lipid Research Club American Educational Research Association New York Academy of Sciences Harvey Society Council of Graduate Schools, National Education Association Council on Foreign Relations Belfer Center on Science and International Affairs, Harvard-Kennedy School of Government

## ACADEMIC RESPONSIBILITIES

# Research Training:

Ph.D. students	Training Perio	d Program and Present Position
Charles Rosenberg	1980-1984	Cell Biology and Genetics, Professor, UCLA
Andrew C. Nicholson	1986-1991	Pathology, Assoc. Res. Professor., Weill Cornell Medical College
Cindy Levine	1990-1994	Pathology, Associate Professor, Columbia
Hongbin Men	1995-1999	Pathology, Associate Professor, UPenn, Philadelphia, PA
Li Sun	2000-2003	Pathology, Assistant Professor, Tianjin Med. University, China
George Moran	2012-2014	Pathology, Weill Cornell Medical College (left to go to Med.Sch)
Post-doctoral Fellows	Training Perio	d Present Position
Dr. Orli Etingin	1983-1986	Professor, Medicine, WCMC*
Dr. Alan Grant	1985-1986	Res Scientist II, Vascular Pathology Group, , CIBA-GEIGY, NJ
Dr. Kenneth Pomerantz	1985-1986	Director of Med. Publications, Boehringer Ingelheim, CT
Dr. Susan Morgello	1986-1987	Professor, Pathology, Mt. Sinai Med. College
Dr. Melvin Tiell	1987-1988	Professor, Pathology, SUNY-Buffalo, NY
Dr. Robert Kaner	1988-1991	Associate Professor, Medicine, WCMC
Dr. Rosemary Kraemer	1989-1992	Associate Res Professor, Pathology, WCMC, NY.NY
Dr. Alison Stopeck	1989-1993	Professor, Univ. of Arizona, Med School, Ariz. Cancer Ctr.
Dr. Andrew Nicholson	1991-1993	Associate Professor, Pathology, WCMC
Dr. Hsien-Yeh Hsu	1991-1994	Professor, Pathology, Taiwan National University
Dr. Frieda Pearce	1991-1994	Res Scientist II, Pathophysiology Div, Bristol-Myers Squibb, NJ
Dr. Roxanna Ursea	1992-1994	Assoc Professor, Opthal Pathology. ,University of Arizona
Dr. Harry Lander	1994-1995	Research Admin Manager, SIDRA Medical Center, Doha, Qatar
Dr. Rita Upmacis	1994-1997	Professor, Biochemistry, Pace University
Dr. Jihong Han	1996-1997	Professor and Chairman, Biochemistry, Nankai University, China
Dr. Jianwei Feng	1998-1999	Associate Professor, Pathology, Brooklyn Hospital, NY
Dr. Geeta Thakker	1999-2000	Associate Professor, Physiology, Univ. of Texas, Houston
Dr. Edward Tamer	1999-2000	Research Scientist II, Astra Zeneca, London, England
Dr. Ruba Deeb	1997-2002	Associate Research Professor, Pathology, WCMC
Dr. Dev Mittar	1999-2001	Associate Professor, Pathology, Nanak Dev Univ, Amritsar, India
Dr. Nikki Feirt	2000-2002	Associate Professor, Pathology Columbia University, NY, NY
Dr. Toru Yokoyama	2000-2002	Sen Res Scientist, Pathology Section, Kowa Corp, Tokyo, Japan
Dr. Michael Parsons	2001-2002	Associate Professor, Medicine, U. Mass, Worcester, MA
Dr. Hao Shen	2002-2005	Research Associate Professor, Pathology, WCMC
Dr. Wei He	2005-2006	Assistant Professor, Pathology, Duke University
Dr. Zhiping Huang	2006-2009	Assistant Member, Pathology, Hospital for Special Surgery, NY
Dr. Brian Lamon	2007-2010	Director, Cancer Liason Office, Bristol-Myers-Squibb, NJ

\*WCMC = Weill Cornell Medical College, Cornell University

# Faculty on Sabbatical Leave in My Laboratory

Dr. M. Tertov	1988-1989	Professor of Pathology, USSR Academy of Medicine,
		Moscow, Russia
Dr. J. Gertler	1989-1990	Professor of Surgery, Mass-General Hospital, Boston, MA
Dr. M. Naruszewicz	1999-2001	Professor of Pathology, Pomeranian Med Academy,
		Warsaw, Poland
Dr. R. Markle	2001-2002	Professor of Biology, Penn State University, PA
Dr. M. Stemerman	2003-2004	Professor and Divisional Dean, University of California,
		Riverside, CA

# Teaching Activities at Weill Cornell Medical College and Graduate School, Cornell University

#### Medical College

Course: Medical Biochemistry for MD Students (1981-1996) Course Directors: Esther Breslow and Owen Griffith

Lectures Taught by David P. Hajjar:

- Membrane Biochemistry I, II
- Prostaglandin Biochemistry
- Complex Lipids
- Cholesterol Metabolism
- Biochemistry of Cardiovascular Disease

Review Session: (weekly 3 hr. review session)

Course: MD/PhD Course in Biochemistry (1988-1993) Course Directors and Lecturers: David P. Hajjar and Jeff Ravetch

Lectures Taught:

- Protein Turnover
- Diabetes
- Cardiovascular Disease
- Membranes Signal Transduction
- Transcriptional Regulation w/Jeff Ravetch
- Clotting Cascades w/Rick Bucala
- Enzyme Kinetics
- Cachexia/Obesity w/Rick Bucala
- Techniques in Structural Biology w/John Kuriyana
- Regulation of Cell Growth w/Jeff Ravetch

Course: Molecules to Cells for MD and MD/PhD Students (1996-2001) Course Director and Lecturer: David P. Hajjar

Lectures Taught:

- Membrane Biochemistry
- Prostaglandin Biochemistry
- Lipoproteins I, II

Conducted my own 10 week PBL session Instructor of the Journal Club weekly session Course: Concepts in Research Methodologies (2012- present) Course Director and Lecturer: David P. Hajjar

7 Lectures taught by David P. Hajjar:

Fundamentals of Logic and Experimental Study Design Responsible Conduct of Research (Ethics) Responsible Conduct of Research (Human and Animal Research) Art of the Presentation Analysis of Scientific Papers I Analysis of Scientific Papers II Preparation of Research Grant Proposals

Course: Advanced Concepts in the Basic Sciences (2002-present)

2 Lectures taught by David P. Hajjar

Concepts of the Pathogenesis of Heart Disease I,II

Mini-Course to the Pathology Residents (2014-present)

Course Director and Lecturer: David P. Hajjar

3 Lectures taught by David P. Hajjar

Concepts of Research Methodology Fundamentals of Clinical Epidemiology Scientific Writing and the Art of Research Presentations

#### Graduate School

Course: Membrane Biochemistry (1985-1995) Course Directors and Lecturers: David P. Hajjar and Marilyn Resh

6 Lectures Taught::

- Membrane Structure
- Methodologies to Study Membrane Structure
- Biosynthesis and Assembly
- Membrane Function
- Role of Membranes in Bioenergetic Metabolism
- Selected Topics in Signal Transduction

Course: Clinical Biochemistry for M.S. Program in Health Sciences (1981-present) Course Director and Lecturer: David P. Hajjar

12 Lectures Taught::

Vitamins and Minerals

- Amino Acids and Proteins
- Enzyme Kinetics
- Acid Base Balance
- Carbohydrate Metabolism I, II
- Lipid Metabolism I, II
- Integration of Metabolism
- Extracellular Matrix and Cytoskeleton
- Digestive System
- Hormones

Intramural Committees at Weill Cornell Medical College:

- 1. Admissions Committees: (1982-1987)-M.D.; (1986-1990)-M.D./Ph.D.
- 2. Committee on Curriculum Review: (1986-1989)
- 3. Committee to Evaluate CUMC Ph.D. Qualifying Examinations: (1985)
- 4. General Faculty Council, Basic Science Member-at-Large: (1984-1987)
- 5. Chairman, Housing Committee: (1985-1987)
- 6. Task Force for Self-Study (LCME), Finance Committee: (1988)
- 7. Awards Committee: Cornell Univ. Graduate School: (1983-1987)
- 8. Institutional Review Committee for Awards: (1987-1989)
- 9. Committee of Review: Promotion and Tenure: (1988-1992)
- 10. Appeals Board for Professional Misconduct: (1988-1994)
- 11. M.D. with Honors in Research Committee: (1988-1995)
- 12. I.T. Hirschl Career-Scientist Award Selection Committee: (1988-1996)
- 13. PEW Scholars Selection Committee: (1991-1996)
- 14. Benefits Plan Administrative Committee: (1991-1994)
- 15. New York Hospital-Cornell Medical Ctr. Joint Board Strategic Planning Committee: (1992-1993)
- 16. Secretary, General Faculty Council: (1988-1990)
- 17. Vice-Chairman, General Faculty Council: (1990-1992)
- 18. Chairman, General Faculty Council: (1992-1994)
- 19. Chairman, Academic Computing Committee: (1991-1992)
- 20. CUMC Conflicts-of-Interest Committee: (1992-1997)
- 21. Chairman, Biochemistry Advisory Committee to develop new graduate program in Biochemistry and Structural Biology: (1993-1994)
- 22. Task Force for Industrial-Academic Relations: (1993-1995)
- 23. Committee to Review Graduate School at Cornell: (1994-1995)
- 24. Co-Chairman, CUMC Curriculum Planning Committee: (1994-1997)
- 25. Chairman, Basic Science Curriculum Subcommittee: (1994-1996)
- 26. Howard Hughes Institute Research Program Advisory Committee: (1995)
- 27. Chairman, Committee of Review, Graduate School: (1995-1997)
- 28. New York Hospital Board of Scientific Advisors: (1995-2000)
- 29. LCME Review Committees on Research, Education, and Governance and Administration: (1995-1996)
- 30. Research Planning Committee: (1995-2003)
- 31. Chairman, Research Services Subcommittee: (1995-1996)
- 32. Research Program Subcommittee: (1995-1996)
- 33. Financial Model Task Force Committee (1996-1997)
- 34. Chairman, Whitney Pavillion Facilities Committee (1997-1998)
- 35. Member, Board of Overseers for CUMC and their affiliated committees (1997 -2013)
- 36. Chairman, Subcommittee on Goverance and Finance, Cornell Univ. Grad. School (1997-1998)
- 37. Member, MD/PhD Tri-Institutional Advisory Committee for Rockefeller University, Sloan-Kettering Institute and Cornell Medical School (1997-2013)
- 38. Member, Housing Committee (1997-2000)
- 39. Member, Dean's Advisory Committee (1997-2012)
- 40. Member, Post-Doctoral Task Force (1997-1999)

- 41. Chairman, Graduate School Executive Committee (1997-2012)
- 42. Member, Planning Coordinating Council for the Medical Center (1997-2002)
- 43. Member, New Capital and Program Initiatives Review Committee (1997-2002)
- 44. Member, Fringe Benefits Review Committee (2000-2002)
- 45. Member, Board of Directors, Griffis Faculty Club (2000-present)
- 46. Chairman, Search Committee to Select New Chairman of the Physiology and Biophysics Department of the Medical College (2000-2001)
- 47. Member, Search Committee to Select New Chairman of the Cell Biology Department for the Medical College (2000-2001)
- 48. Member, Search Committee to Select New Chairman of the Pediatrics Department for the Medical College (2000-2001)
- 49. Member, LCME Task Force on Research and Education, and Governance and Administration (Self-Study) for College Accreditation (2001-2002)
- 50. Member, Search Committee to Select New Chairman of Urology Department for the Medical College (2002-2003)
- 51. Member, Search Committee to Select New Chairman of Surgery Department for the Medical College (2002-2003)
- 52. Member, Search Committee to Select New Chairman of Otorhinolaryngology Department for the Medical College (2003-2005)
- 53. Member, Search Committee to Select New Chairman of the Department of Medicine for the Medical College (2004-2006)
- 54. Chairman, Strategic Plan III Committee \$1.6 billion project to develop a new research building and new research, clinical, and educational programs for the Medical College, and to link the University's programs with the Medical College (2003-2006)
- 55. Member, Search Committee to Select New Chairman of the Department of Opthalmology for the Medical College (2005-2006)
- 56. Chairman, Committee to Design New Research Programs for the Cornell Medical College Branch Campus in Doha, Qatar (\$180 million) (2004-2009)
- 57. Chairman, Task Force on Medical Education for the Medical College (2007)
- 58. Chairman, Task Force to Re-organize the Committee of Review and Promotions (2007)
- 59. Chairman, Strategic Plan Research Implementation Committee (2007-2010)
- 60. Chairman, Committee to Review the Academic Staff Policies and Procedures (2007-2008)
- 61. Chairman, Committee on Diversity and for the Establishment of an Office of Women in Science and Medicine (2008)
- 62. Vice Chairman, Search Committee for New Dean of Weill Cornell Medical College in Qatar (2008-2009)
- 63. Member, Steering Committee for the LCME Review for the Medical College (2008-2009)
- 64. Member, Search Committee to select a New Chairman of the Department of Neurology and Neurosciences for the Medical College (2011-2012)
- 65. Chairman, Research Development Task Force, for the Medical College (2010-2012)
- 66. Member, Medical Education Council, for the Medical College (2010-2014)
- 67. Chairman, Task Force to Implement the Medical College's Education Reforms Regarding its Curriculum (2011-2012)
- 68. Member, Planning Committee for the Center for Genomic Medicine, for the Medical College (2012)
- 69. Member, Planning Committee for the Cornell NYC-Technology campus (2012-2014)

- 70. Member, Starr Foundation Stem Cell Executive Committee (2006-2012)
- 71. Member, Starr Foundation Cancer Biology Executive Committee (2007-2012)
- 72. Member and Chair, Center for Health Informatics and Science Policy Advisory Committee (2012-2014)
- 73. Executive Committee for Scholarships for Medical Students (2015-present)

## Extramural National Committees:

- 1. Council on Arteriosclerosis and Thrombosis, American Heart Association (1982-present)
- 2. Chairman, Program Committee, American Heart Association (1984-1986)
- 3. NIH Medical Biochemistry Study Section, Ad Hoc (1983-1987)
- 4. NIH Pathology A Study Section (1991-1995)
- 5. NIH National Heart, Lung, and Blood Institute, Program Project Committee (1998-2002)
- 6. NIH Specialized Centers of Research in Arteriosclerosis, Parent Committee (1986, 1991)
- 7. U.S. Veteran's Administration, Member, Biochemistry Merit Review Study Section (1985-1990)
- 8. Scientific Advisory Committee to the U.S. Congressional Biomedical Research Caucus, House of Representative's Appropriations Committee (1991-1992)
- 9. FASEB (ASIP), Public Affairs Committee (1991-1996)
- 10. Research Committee, American Heart Association (AHA), National Center (1992-1995)
- 11. FASEB (Amer Soc. Biochemists and Molecular Biologists) Program Committee (1991-1993)
- 12. FASEB Public Affairs Executive Committee (1993-1995)
- 13. Chairman, Vascular Biology Research Study Section, American Heart Association (1996-1999)
- 14. NIH/NASA Review Committee for NHLBI Grants (1993-1996)
- 15. Chairman, North American Vascular Biology Organization (AHA) Development Committee (2001-2003)
- 16. Reviewer, University of California Graduate School Programs (UCLA/UCR) (2003)
- 17. FASEB Committee on Shared Research Resources (2015-present)

# Editorial Boards of Scientific Journals:

- 1. AHA Arteriosclerosis and Thrombosis (1990-1994)
- 2. AHA Circulation Research (1998-2001)
- 3. Journal of General Pharmacology (1999-2004)
- 4. Current Lipidology Reports (1998-2003)
- 5. Current Atherosclerosis Reports (1999-2009)
- 6. Journal of Lipid Research (1988-2000) Associate Editor (1988-1993)
- 7. The Pathologist (2014-present), Cornell University, Co-Editor
- 8. Journal of Enzymology and Metabolism (2015-present)

#### Board Memberships (National and Intramural)

- 1. American Institutes of Chemists, Board of Scientific Affairs (1987-1990)
- 2. New York Hospital, NY, Board of Scientific Advisors (1995-2000)
- 3. NASA Board of Scientific Counselors (1998-2003)
- 4. Cornell University, Weill Cornell Medical College, Board of Overseers (1997-2012)
- 5. Cornell University Griffis Faculty Club, NY, NY. Board of Directors (1999-present)
- 6. New York Genome Center, NY, NY. Board of Directors (2011-2013)
- 7. Scientific Advisory Board, Therapeutic Solutions International, Inc. (2015-present)

# SUMMARY OF ADMINISTRATIVE ACCOMPLISHMENTS (1980-1997)

## I. <u>Program Development</u>

Committee Chairman: Led initiative to design and implement a new Graduate Program in Biochemistry and Structural Biology. This program includes a faculty of 22 investigators from Cornell University Medical College and the Memorial-Sloan-Kettering Institute

#### II. Educational Development

Committee Chairman: Led initiative to revise the curriculum in the basic sciences for the medical and graduate students at Cornell University. Activities have also included working actively to develop and implement two "out-reach" programs to recruit under-privileged minority students for our federally-based research training programs in the Graduate School.

#### III. Research Training Development

Led initiative to develop NIH and Bristol-Myers-Squibb sponsored training grant programs at Cornell for preand post-doctoral graduate students. For 30 years, I served as Director of an NIH Training Grant (12 preceptors) for pre- and post-doctoral students in the area of vascular biochemistry. In 2003, I was awarded, as Principal Investigator, a Bristol-Myers 5-year grant to support graduate student training in experimental pathology.

## Fund-Raising (Industrial Sector)

A successful effort was completed in 2005 to raise funds for graduate education in experimental pathology from the private and industrial sector. The following corporations and donors have provided these funds for the advancement of graduate education at the pre- and post-doctoral levels in the field of cell and vascular biology: Bristol-Myers-Squibb, Miles Laboratories, Symphar Corporation, Syntex Corporation, Astra Zeneca, and Kowa Corp.

#### IV. <u>Research Center Development</u>

In 1995, a Center of Vascular Biology was developed at Cornell University Medical College in which I served as the founding Director. 18 faculty from various basic and clinical science departments at Cornell participate in the educational and research mission of the Center. The Director's responsibilities include: the management of approximately \$3.0 million/year in federal and non-federal research funds, research space allocations within the Center (5000 sq.ft.), and personnel management between faculty, students, technicians, and staff of the Center with the medical center administration.

#### V. <u>Research Services</u>

Committee Chairman: Led initiative to design and implement new core and research services at Cornell University Medical College to better serve the research community at this institution.

# SUMMARY OF ADMINISTRATIVE ACCOMPLISHMENTS (1997-2013)

Since my appointment as Dean in 1997, I implemented a \$20 million dollar new Strategic Plan for Research and Education within the Weill Cornell Graduate School of Medical Sciences. This included new curriculum changes, admission policies, social services, housing, program development, and endowment strategies. Our rankings in U.S. News and World Report improved, from #38 to #26.

Developed and implemented new academic international programs between Cornell University and Tianjin Medical University, Tianjin, China, in 1999 to foster the exchange of students and scholars between the two universities. In addition, I engineered an academic partnership between The Pasteur Institute, Paris, France and Weill Cornell Graduate School of Medical Sciences for the training of students beginning in 2005 based, in part, on our new strategic plan for the Graduate School. In 2008, an academic affiliation agreement was developed between Weill Cornell and Imperial College, London; and, in 2010, we did a similar affiliation agreement between Weill Cornell and the University of Tokyo.

As chief academic officer (Dean) of the Graduate School, I was responsible for budgeting, administrative, and alumni activities of our organization as well as implementation (annual budget ca \$10 million).

Designed new research and educational strategic plan (\$180 million) for the new medical college which I helped to develop at the Weill Cornell branch campus in Doha, Qatar in the Middle East. This initiative included the new research and training plan to foster collaborative interactions with the Medical College in New York City and our parent university in Ithaca, particularly with the Colleges of Arts and Sciences, Veterinary School, and Engineering. My responsibilities regarding our international programs in the Middle East, China, and France centered on operation and programmatic issues related to faculty affairs, research and training.

Participated in the Strategic Planning initiative to design and implement a new 430,000 gross sq. ft. research facility at The Methodist Hospital in Houston. This included the design of new academic programs in cancer, heart disease, global health, orthopedics, and diabetes.

Led a two-year strategic planning process to design and implement an overall \$1.7 billion dollar educational, research, and clinical plan for the Weill Cornell graduate school and medical college. Included in this initiative are plans to bring the Ithaca campus closer in line with the medical college campus in terms of its educational and research programs. In addition, we have built stronger bridges between our campus in Doha, Qatar with the medical college and graduate school in New York City.

Dealt with issues that arose between the administration and the faculty that relate to research and educational activities at our Medical Center. I also worked closely with our Chief Operating Officer in areas related to operations (facilities, housing, human resources, and budget / finance) to help serve the faculty at the medical center. I was also responsible for the research administrative budget for the College.

Designed and implemented joint MD/MBA and PhD/MBA programs with our Medical College, Graduate School of Medical Sciences, and the Johnson School of Management of Cornell University in Ithaca, N.Y.

Established a new Office of Faculty Diversity in Medicine and Science at Weill Cornell Medical College in 2009.

#### SUMMARY OF MAJOR RESEARCH ACCOMPLISHMENTS (1980-PRESENT)

During the course of my scientific career, I

1. Identified the cytoplasmic cholesteryl esterase in the vessel wall as a distinct enzyme system which breaks down the storage form of cholesterol in the cell

Hajjar DP et al: Journal of Biological Chemistry 258:192-198, 1983.

2. Identified the regulatory elements which affect the esterase that controls cholesterol trafficking in the cell

Hajjar DP et al: Journal of Clinical Investigation 70:479-488, 1982.
Hajjar DP et al: Journal of Lipid Research 24:1176-1185, 1983.
Hajjar DP: Enzyme 32:218-227, 1984.
Hajjar DP: Biochemical Pharmacology 34:295-300, 1985.
Etingin OR and DP Hajjar: Journal of Clinical Investigation 75:1554-1558, 1985.
Etingin OR and DP Hajjar: Journal of Lipid Research 27:530-536, 1986.
Hajjar DP et al: Biochemistry 28:8885-889I, 1989.
Pomerantz KB and DP Hajjar: Biochemistry 29:1892-1899, 1990.

3. Discovered the role of herpesvirus infection in the regulation of cholesterol metabolism and thrombotic processes in cells and in an animal model of atherosclerosis

Fabricant CG, Hajjar DP et al: American Journal of Pathology 105:176-184, 1981.
Hajjar DP et al: Journal of Biological Chemistry 260:6124-6128, 1985.
Hajjar DP et al: American Journal of Pathology 122:62-70, 1986.
Hajjar DP: Journal of Biological Chemistry 261:7611-7614, 1986.
Hajjar DP et al: Journal of Clinical Investigation 80:1317-1321, 1987.
Hajjar DP et al: Proceedings of the National Academy of Sciences 86:3366-3370, 1989.
Etingin OR and DP Hajjar: Journal of Lipid Research 31: 299-305, 1990.
Etingin OR, RL Silverstein and DP Hajjar: Cell 61:657-662, 1990.
Baird A, RZ Florkiewicz, PA Maher, RJ Kaner and DP Hajjar: Nature 348:344-346, 1990.
Etingin OR et al: Proceedings of the National Academy of Sciences 88:7200-7203, 1991.
Altieri DC, OR Etingin, DP Hajjar et al: Science 254: 1200-1203, 1991.
Hajjar DP: American Journal of Pathology 139: 1195-1211, 1991.
Etingin OR et al: Proceedings of the National Academy of Sciences 90:5153- 5156, 1993
Hsu H et al: Journal of Biological Chemistry 270: 19630-19637,1995.

4. Defined the role of nitrogen oxides in the control of eicosanoid and cholesterol metabolism

Hajjar DP et al: Journal of the American Chemical Society 117: 3340-3346, 1995.
Upmacis RK, RS Deeb and DP Hajjar: Biochemistry 38:12505-12513, 1999.
Upmacis RK et al: American Journal of Physiology, 286:C1271-1280, 2004.
Deeb RS et al: American Journal of Pathology, 168:349-362, 2006.
Deeb RS et al: Journal of the American Chemical Society, 132: 3914-3922, 2010.
Lamon BD et al: American Journal of Physiology, 229(3):H613-23, 2010.

5. Identified the adhesive protein, CD36, as a major scavenger receptor in oxidized lipoprotein trafficking

Han J, DP Hajjar, et al: Journal of Biological Chemistry 272:21654-21659, 1997.
Hsu HY, DP Hajjar, et al: Journal of Biological Chemistry 273:1240-1247, 1998.
Han J, DP Hajjar, et al: Journal of Lipid Research 40:830-838, 1999.
Febbraio M, DP Hajjar, et al: Journal of Biological Chemistry 274:19055-19062, 1999.
Feng JW, et al: Journal of Lipid Research 41:688-696, 2000.
Han J, DP Hajjar, et al: Journal of Biological Chemistry 275:241-1246, 2000.
Podrez EA, et al: Journal of Clinical Investigation 105:1095-1108, 2000.
Febbraio M, et al: Journal of Biological Chemistry 277:38517-38523, 2002.

#### **INTERNATIONAL MEETINGS- INVITED LECTURES**

- <u>5th International Conference in Cyclic Nucleotides and Protein Phosphorylation</u> (June 1983), University of Milan, Milan, Italy. "Prostacyclin Alters Cholesterol Metabolism by its Effect on Cyclic AMP in Arterial Smooth Muscle Cells."
- 2. <u>Kyoto Conference on Prostaglandins</u> (November 1984), Kyoto, Japan. "Prostacyclin and Cyclic Nucleotides Interact to Modulate Arterial Cholesterol Metabolism."
- 3. <u>Tokyo Conference on Prostaglandins</u> (December 1984), Tokyo Medical and Dental University, Tokyo, Japan. "Prostaglandins and Cholesterol Metabolism."
- 4. <u>International Conference on Molecular Biology of Cardiovascular Disease</u> (November 1987), Paris, France. "Molecular Aspects of Herpesvirus-Induced Arteriosclerosis."
- 5. <u>4th International Colloquium on Atherosclerosis</u> (March 1988), Brussels, Belgium. "Role of Prostaglandins in Arteriosclerosis."
- 6. <u>International Conference on Prostaglandins</u> (March 1988), Paris, France. "Prostaglandin-Lipoprotein Interactions During Atherosclerosis."
- 7. <u>Taipei Conference on Prostaglandin and Leukotriene Research</u> (April 1988), Taipei, Taiwan, R.O.C. "Regulation of Cholesterol Metabolism by Eicosanoids and other Regulatory Signals."
- 8. <u>14th International Congress of Biochemistry</u> (July 1988), Prague, Czechoslovakia. "Kinetics of Cholesteryl Ester Hydrolysis."
- 9. <u>8th International Symposium on Atherosclerosis</u> (October 1988), Rome, Italy. "Cytokine network in arterial cell metabolism: cellular and molecular aspects."
- 10. <u>International Symposium in Lipid Metabolism</u> (February 1989), Heidelberg, Germany. "Prostaglandin-Cyclic AMP Activation of Cholesteryl Ester Hydrolase."
- 11. <u>European Atherosclerosis Society</u> (April 1989), Athens, Greece. "Cytokine Regulation of LDL Receptor Gene Transcription."
- 12. European Hypertension Society (June 1989), Milan, Italy. "Biochemical Basis of Atherosclerosis."
- 13. European Atherosclerosis Society (March 1990), Granada, Spain. "Molecular Mimicry in Atherogenesis."
- 14. <u>International Symposium in Atherosclerosis</u> (November 1990), Algarve, Portugal. "Molecular Mimicry During Atherogenesis."
- 15. <u>International Meeting on Juvenile Diabetes</u> (March 1992), Monaco, France. "Characterization of the Activation of Cholesteryl Ester Hydrolysis."

- 16. <u>International Symposium on Lipid Metabolism</u> (May 1992), Florence, Italy. "Signal Transduction Pathways Involved in Lipolysis."
- 17. International Academy of Pathology (June 1992), Toronto, Canada. "Molecular Mimicry During Atherosclerosis and Thrombosis."
- 18. <u>Bayer International Conference in Atherosclerosis</u> (February 1993), Regensburg, Germany. "Molecular Characterization of Coagulation Protease-Viral Glycoprotein Interactions."
- 19. <u>European Vascular Biology Conference</u> (March 1993), Courcheval, France. "Signal Transduction in Atherosclerosis."
- 20. <u>Bayer Symposium-62nd European Atherosclerosis Society Congress</u> (September 1993), Jerusalem, Israel. "Cytokine-LDL Receptor Activation of Cholesterol Metabolism."
- 21. <u>3rd Saratoga International Conference on Atherosclerosis</u> (October 1993), Urabandai, Japan. "Molecular Modeling of the Coagulation Protease-Viral Glycoprotein Complexes."
- 22. <u>United Nations International Conference on Atherosclerosis</u> (June 1994), Miedzyzdroje, Poland. "Mechanisms of Atherosclerosis."
- 23. <u>European Lipoprotein Society</u> (September 1994), Munich, Germany. "Regulation of LDL-Cholesterol Trafficking by the Cytokine Network."
- 24. <u>Institute of Scientific Research</u> (November 1994), Paris, France. "LDL Receptor Activation by Inflammatory Mediators: Conformational Structural Changes and Altered Cholesterol Trafficking."
- 25. Wellcome Trust (September 1995), London, England. "Viral Activation of the Coagulation Cascade."
- 26. <u>3rd Scientific Meeting of the Polish Society for Atherosclerosis Research</u> (October 1995), Cracow, Poland. "Role of the Cytokine Network in Arterial Cholesterol Trafficking."
- 27. <u>4th Saratoga International Conference on Atherosclerosis</u> (Feb 1996), Honolulu, Hawaii. "Cytokine-LDL Receptor Activation of Cholesterol Metabolism."
- 28. <u>3rd Scandinavian Atherosclerosis Conference</u> (May 1996), Copenhagen, Denmark. "CD36 is a Receptor for Oxidized LDL".
- 29. <u>68th European Atherosclerosis Society Conference</u> (May 1997), Bruges, Belgium. "Macrophage Scavenger Receptors: Novel Binding Interactions with Oxidized Lipids"
- 30. <u>16th Congress of the International Society on Thrombosis</u> (June 1997), Florence, Italy. "Macrophage Scavenger Receptors for Oxidized LDL".
- 31. <u>11th International Symposium on Atherosclerosis</u> (October, 1997) Paris, France. "Macrophage Biology: New Avenues of Research Involving Cholesterol Trafficking".

- 32. International Society for Enzymology (May, 1998). Toronto, Canada. "Viral Pathogenesis of Atherosclerosis".
- 33. <u>13th International Symposium on Drugs Affecting Lipid Metabolism</u> (May 1998). Florence, Italy. "Novel Lipoprotein Receptors in Vascular Cholesterol Trafficking".
- 34. <u>International Symposium on Atherosclerosis</u> (October 1998). Warsaw, Poland. "Novel Scavenger Receptors in Cholesterol Trafficking".
- 35. <u>Conference on Infection and Atherosclerosis</u> (December 1998). Annecy, France. "Viral Activation of the Coagulation Cascade".
- 36. <u>5th Saratoga Conference on Atherosclerosis</u> (May 1999). Barcelona, Spain. "Cholesterol Trafficking in Macrophages by the CD36 Scavenger Receptor".
- 37. <u>5th International Symposium on Multiple Risk Factors in Cardiovascular Disease</u> (October 1999). Venice, Italy. "Novel Scavenger Receptors in Cholesterol Trafficking".
- 38. <u>32nd Annual Meeting of the Japan Atherosclerosis Society</u> (June 2000). Tokyo, Japan. "Role of CD36 in Atherosclerosis".
- 39. <u>11th International Vascular Biology Meeting</u> (September 2000). Geneva, Switzerland. "Role of CD36 as a Macrophage Scavenger Receptor in Atherogenesis".
- 40. <u>European Atherosclerosis Society Workshop on the Immune System</u> (March 2001). Geneva, Switzerland. "Role of Macrophage Scavenger Receptors in the Pathogenesis of the Atherosclerotic Lesion".
- 41. International Conference on New Avenues in Atherosclerosis Research: Genomics and Therapeutical <u>Perspectives</u> (March 2001). Montreal, Canada. "Viral Activation of theVessel Wall: Implications for Thrombo-Atherosclerosis".
- 42. <u>6th Saratoga International Conference on Atherosclerosis</u> (April 2001). Tokyo, Japan. "CD36: A Macrophage Scavenger Receptor Involved in Atherogenesis".
- 43. <u>50th Annual American Association of University Pathologists Conference</u> (February 2002). Turks and Caicos Islands, Great Britain. "Regulation of Cholesterol Trafficking in the Vessel Wall".
- 44. <u>6th International Symposium on Global Risk of Coronary Heart Diseases and Stroke</u> (June 2002). Florence, Italy. "Regulation of PPAR-mediated Gene Expression: A New Mechanism of Action for HDL.
- 45. <u>2nd International Symposium on PPARs</u> (March 2003). Florence, Italy. "Role of PPARγ in the Regulation of Arterial Cholesterol Trafficking".
- 46. <u>XIIIth International Symposium on Atherosclerosis</u> (September 2003). Kyoto, Japan. "Role of Pitavastatin in Cholesterol Trafficking in the Vessel Wall".

- 47. <u>XV International Symposium on Drugs Affecting Lipid Metabolism</u> (October 2004). Venice, Italy. "Regulation of CD36 by PPAR During Atherogenesis: Impact on Cholesterol Accretion".
- 48. <u>2nd International Symposium on Triglycerides HDL and Metabolic Diseases</u> (July 2005). New York, NY. "Role of CD36 and Other Macrophage Scavengers in Cholesterol Trafficking in the Vessel Wall."
- 49. <u>14th International Vascular Biology Meeting</u> (June 2006). Noordwijkerhout, the Netherlands. "Scavenger Receptor Activation in the Vessel Wall".
- 50. <u>14th International Symposium on Atherosclerosis</u> (June 2006). Rome, Italy. "Pathogenesis of Atherosclerosis: New Insights to this Aging Process".
- 51. <u>European Atherosclerosis Society, 76th Congress</u> (June 2007). Helsinki, Finland. "PPARγ Regulation of Cholesterol Trafficking I n the Vessel Wall".
- 52. XVI International Symposium on Drugs Affecting Lipid Metabolism (October 2007). New York, NY. "Nuclear Receptors in the Control of Cholesterol Trafficking".
- 53. <u>5th International Nanomedicine and Drug Delivery Symposium (November 2007)</u>. Boston, Mass. "Development of New Platform Technologies to Measure Cholesterol-Lipoprotein Receptor Interactions".
- 54. <u>University of Naples, Department of Surgery</u> (June 2008). Naples, Italy. "Role of the Cytokine/Eicosanoid Network in the Control of Cholesterol Metabolism and Efflux".
- 55. <u>7th International Symposium on Multiple Risk Factors in Cardiovascular Diseases-Health Policies</u> (October 2008). Venice, Italy. "Heme-Oxygenase and Cycloxygenase Pathways in Inflammatory Responses".
- 56. <u>XV International Symposium on Atherosclerosis</u> (June 2009). Boston, Mass. "Nitric Oxide Derivatives, Prostanoids, and Vascular Biology"
- 57. <u>8<sup>th</sup> International Congress on Coronary Artery Disease</u> (October 2010). Prague, Czech Republic. "Heme is Critical in the Regulation of Prostaglandin Metabolism during Atherosclerosis"
- 58. <u>79<sup>th</sup> European Atherosclerosis Congress</u> (June 2012). Gothenburg, Sweden. "Inflammatory Mediators which Trigger Arterial Cholesterol Accumulation".
- 59. <u>18<sup>th</sup> World Congress on Heart Disease. International Academy of Cardiology</u> (July 2014). Toronto, Canada. "Inflammation and Arterial Cholesterol Efflux Thru Micro RNAs embedded in SREBP<sub>2</sub> and ABAC1".

#### RESEARCH SUPPORT AT WEILL CORNELL MEDICAL COLLEGE

#### Current Research Grant Support:

KOWA Pharmaceutical Corporation, Tokyo, Japan Title: Regulation of Cholesterol Trafficking in Atherogenesis by MicroRNAs Principal Investigator: David P. Hajjar Period of Support: 2000-2016 Direct Costs: \$100,000/yr; Total Costs: \$2.5 million

Julia and Seymour Gross Foundation Principal Investigator: David P. Hajjar Period of Support: 2000-2016 Direct Costs: \$25,000 /yr: Total Costs: \$1.1 million

#### Previous Research Grant Support at Cornell, since 1978:

NIH PHS Postdoctoral Research Award, HL-05851 (F32) Title: Regulation of Lipid Accretion-Metabolism Principal Investigator: David P. Hajjar Period of Support: 1978-1981 Direct Costs: \$15,400/yr; Total Costs: \$50,000

NIH Research Investigatorship Award, R23 HL-28179 Title: Characterization of Cholesteryl Ester Hydrolase in Atherogenesis Principal Investigator: David P. Hajjar Period of Support: 1981-1984 Direct Costs: \$51,400/yr; Total Costs: \$261,800

NIH SCOR-Thrombosis, HL-18828 Title: Ultrastructural Biology Core Principal Investigator: David P. Hajjar Period of Support: 1984-1986 Direct Costs: \$58,100/yr; Total Costs: \$200,000

New York Heart Association Senior Investigatorship for Research Title: Activation of the Catalytic Domain of Cholesteryl Ester Hydrolysis Principal Investigator: David P. Hajjar Period of Support: 1981-1984 Direct Costs: \$31,000/yr; Total Costs: \$130,000

Andrew W. Mellon Foundation Teacher-Scientist Award
Awarded to Dr. David P. Hajjar for research on herpesvirus-induced arteriosclerosis and teaching at Cornell University Medical College
Period of Support: 1981-1983
Direct Costs: \$15,000/yr; Total Costs: \$48,000

NIH Biomedical Research Support Grant, # 8605-008 Title: Molecular Biology of Herpesvirus-Induced Atherogenesis Principal Investigator: David P. Hajjar Period of Support: 1986-1987 Total Costs: \$150,000

American Heart Association Grant-In-Aid, #84-860 Title: Metabolic Alterations in Herpesvirus-Infected Cells in Atherogenesis. Principal Investigator: David P. Hajjar Period of Support: 1984-1987 Direct Costs: \$33,000/yr; Total Costs: \$132,000 NIH PHS, 1 R01 HL-35564 Title: Molecular Interactions in Atherogenesis Principal Investigator: David P. Hajjar Period of Support: 1985-1988 Direct Costs: \$108,000/yr; Total Costs: \$550,000

American Heart Association Established Investigatorship Title: Viral Lipid-Protein Interactions in Atherogenesis Principal Investigator: David P. Hajjar Period of Support: 1984-1989 Direct Costs: \$31,500/yr; Total Costs: \$118,500

American Heart Association Grant-in-Aid, #87-813 Title: Eicosanoids and Lipoprotein-Induced Cholesterol Efflux Principal Investigator: David P. Hajjar Period of Support: 1987-1990 Direct Costs: \$30,000/yr; Total Costs: \$112,500

American Health Foundation, Grant-in-Aid Title: Eicosanoid Metabolism during Arteriosclerosis Co-Principal Investigator: David P. Hajjar Period of Support: 1987-1990 Direct Costs: \$25,000/yr; Total Direct Costs: \$95,000

American Heart Association (New York Affiliate), Grant-in-Aid Title: Activation of the Catalytic Domain of Cholesteryl Ester Hydrolase Principal Investigator: David P. Hajjar Period of Support: 1988-1991 Direct Costs: \$45,000/yr; Total Costs: \$165,000

NIH PHS, 1 R01 HL-39701 Title: Eicosanoid Regulation of Arterial Cholesterol Metabolism Principal Investigator: David P. Hajjar Period of Support: 1988-1993 Direct Costs: \$203,000/yr; Total Costs: \$1.1 million

NIH PHS, I R0I HL-45343 Title: Biochemistry of Growth Factor Receptor Interactions in Atherogenesis Principal Investigator: David P. Hajjar Period of Support: 1990-1994 Direct Costs: \$165,000/yr; Total Costs: \$510,000 NIH Subcontract from Scripps Institute, La Jolla, CA Title: Structural Analysis of Factor X/Xa Catalytic Domain Principal Investigator: David P. Hajjar Period of Support: 1990-1995 Direct Costs: \$50,000/yr; Total Costs: \$300,000

NIH Biomedical Research Support Grant, #05396-29 Division of Research Resources Title: Molecular Aspects of Cholesterol Metabolism Period of Support: 1990-1992 Total Costs: \$80,000

NIH SCOR-Thrombosis, P50 HL-18828 Title: Regulation of Cholesterol Trafficking, Project V Principal Investigator: David P. Hajjar Period of Support: 1981-1986; 1986-1991; 1991-1996; Direct Costs: \$167,000/yr; Total Costs: \$4.3 million (for the 15 yrs)

NIH PHS 1 R01-HL-49666 Title: G-Proteins Activation and Cholesterol Metabolism Principal Investigator: David P. Hajjar Period of Support: 1993-1998; 1998-2004 Direct Costs: \$300,000/yr; Total Costs: \$5.8 million for the 10 yrs

NIH Conference Grant, R13 HL/DK 58477 Title: Gordon Conference in Atherosclerosis Principal Investigator: David P. Hajjar Period of Support: 1997 Total Direct Costs: \$16,000

NIH SCOR - Molecular Medicine and Atherosclerosis, P50 HL-56987 Director of SCOR - David P. Hajjar Principal Leader: David P. Hajjar, Project I Title: CD36: A Novel Scavenger Receptor in Macrophage Foam Cells Period of Support: 1997-2002 Direct Costs: \$1.3 million/yr; Total Costs: \$11.7 million NIH PHS, 2 S07 RR018205 Title: Human Subjects Research Enhancement Program: Atherosclerosis Principal Investigator: David P. Hajjar Period of Support: 2004-2005 Total Direct Costs: \$250,000

NIH National Center of Research Resources C06 RR-020532 Title: RR-03-011 Extramural Research Facilities Construction Project for Center of Vascular Biology Principal Investigator: David P. Hajjar Period of Support: 2004-2006 Total Direct Costs: \$2.0 million

NIH Program Project Grant, NHLBI, P01-HL-72942 Title: The Atherogenic Microenvironment Director, David P. Hajjar Project Leader: Project I and Core A Period of Support: 2003-2008 Direct Costs: \$1.2 million/yr; Total Costs: \$10.8 million

NIH National Research Service Award Training Grant, T32 HL-07423 Title: Vascular Biochemistry and Atherosclerosis Director: David P. Hajjar Period of Support: 1981-2010 (30 yrs) Direct Costs: \$322,800/yr; Total Costs: \$11.6 million

NIH R01/RCI, HL091101 (ARRA Award) Title: Eicosanoid Regulation in Atherosclerosis: Involvement of Inducible NO Synthase Principal Investigator: David P. Hajjar Period of Support: 2009-2012 Direct Costs: \$255,000; Total Costs: \$1.3 million

NIH Program Project Grant, NHLBI, P01-HL-46403 Title: Vascular Cell Signaling Pathways in Atherogenesis Director: David P. Hajjar Project Leader: Project V and Cores A and B Period of Support: 1991-1996; 1996-2001; 2001-2006; 2006-2011; 2011-2015 Direct costs: \$1.3 million/yr; Total Costs: \$42 million.

Since my initial recruitment to Weill Cornell Medical College in 1978, I have been awarded approximately \$70 million in federal and non-federal research support (this includes direct and indirect costs).

#### SCIENTIFIC PUBLICATIONS

#### Ph.D. Dissertation:

**Hajjar DP**: Bioenergetic Metabolism and its Relationship to Lipid Synthesis during Atherogenesis. University of New Hampshire, Durham, NH, 1978

#### Original Research Papers:

- 1. **Hajjar DP**, TN Wight and SC Smith: Lipid accumulation and ultrastructural change within the aortic wall during early spontaneous atherogenesis. American Journal of Pathology 100:683-706, 1980.
- 2. Falcone DJ, **DP Hajjar** and CR Minick: Enhancement of cholesterol and cholesteryl ester accumulation in re-endothelialized aorta. American Journal of Pathology 99:81-104, 1980.
- 3. **Hajjar DP** and SC Smith: Focal differences in arterial bioenergetic metabolism of atherosclerosissusceptible and resistant pigeons. Journal of Atherosclerosis Research 36:209-222,1980.
- 4. **Hajjar DP**, DJ Falcone, S Fowler and CR Minick: Endothelium modifies altered metabolism of the injured aortic wall. American Journal of Pathology 102:28-39, 1981.
- 5. Eldor A, DJ Falcone, **DP Hajjar**, CR Minick and BB Weksler: Recovery of PGI2 production by deendothelialized aorta. Critical role of neointimal smooth muscle cells. Journal of Clinical Investigation 67:735-741, 1981.
- 6. Fabricant CG, **DP Hajjar**, CR Minick and J Fabricant: Herpesvirus infection enhances cholesterol and cholesteryl ester accumulation in cultured arterial smooth muscle cells. American Journal of Pathology 105:176-184, 1981.
- Eldor A, DJ Falcone, DP Hajjar, CR Minick and BB Weksler: Diet-induced hypercholesterolemia inhibits the recovery of prostacyclin production by rabbit aorta. American Journal of Pathology 107:186-190, 1982.
- 8. **Hajjar DP**, BB Weksler, DJ Falcone, JM Hefton, and CR Minick: Prostacyclin modulates cholesteryl ester metabolism by its effect on cyclic AMP in aortic smooth muscle cells. Journal of Clinical Investigation 70:479-488, 1982.
- 9. **Hajjar DP**, CR Minick and S Fowler: Arterial neutral cholesteryl esterase: A hormone-sensitive enzyme distinct from lysosomal cholesteryl esterase. Journal of Biological Chemistry 258:192-198, 1983.

- 10. **Hajjar DP**, and BB Weksler: Metabolic activity of cholesteryl esters in aortic smooth muscle cells is altered by prostaglandins I2 and E2. Journal of Lipid Research 24:1176-1185, 1983.
- 11. Hajjar DP: Prostaglandins modulate arterial cholesteryl ester metabolism. Enzyme 32:218-227, 1984.
- 12. Falcone DJ, **DP Hajjar** and CR Minick: Lipoprotein and albumin accumulation in re-endothelialized aortic wall. American Journal of Pathology 114:112-120, 1984.
- 13. **Hajjar DP**: Prostaglandins and cyclic nucleotides: modulators of arterial cholesterol metabolism. Biochemical Pharmacology 34:295-300, 1985.
- 14. Salisbury BGJ, **DP Hajjar** and CR Minick: Altered glycosaminoglycan metabolism in injured rabbit aorta. Experimental and Molecular Pathology 42:306-319, 1985.
- 15. **Hajjar DP**, DJ Falcone, CG Fabricant, and J Fabricant: Altered cholesteryl ester cycle is associated with lipid accumulation in herpesvirus infected arterial smooth muscle cells. Journal of Biological Chemistry 260:6124-6128, 1985.
- 16. Etingin OR and **DP Hajjar**: Nifedipine increases cholesteryl ester hydrolytic activity in lipid-laden rabbit arterial smooth muscle cells: a possible mechanism for its anti-atherogenic effect. Journal of Clinical Investigation 75:1554-1558, 1985.
- Hajjar DP, DJ Falcone, JB Amberson and JM Hefton: Interaction of arterial cells: I. Arterial endothelial cells alter cholesterol metabolism and endocytosis in co-cultured arterial smooth muscle cells. Journal of Lipid Research 26:1212-1223, 1985.
- 18. Becker CG, **DP Hajjar** and JM Hefton: Tobacco constituents are mitogenic for arterial smooth muscle cells. American Journal of Pathology 120:1-5, 1985.
- Hajjar DP, CG Fabricant, CR Minick and J Fabricant: Virus-induced atherosclerosis. Herpesvirus infection alters arterial cholesterol metabolism and accumulation. American Journal of Pathology 122:62-70, 1986.
- 20. **Hajjar DP**: Regulation of neutral cholesteryl esterase in arterial smooth muscle cells: Stimulation by agonists of adenylate cyclase and cyclic AMP-dependent protein kinase. Archives of Biochemistry and Biophysics 247:49-56, 1986.
- 21. Etingin OR and **DP Hajjar**: Hydrolytic metabolites of prostacyclin increase cholesteryl ester catabolism in arterial smooth muscle cells. Journal of Lipid Research 27:530-536, 1986.
- 22. **Hajjar DP**: Herpesvirus infection prevents the activation of cytoplasmic cholesteryl esterase in arterial smooth muscle cells. Journal of Biological Chemistry 261:7611-7614, 1986
- Hariri RJ, DP Hajjar, DR Alonso, and ME Weksler: Aging and Arteriosclerosis. I. Development of myointimal hyperplasia following endothelial injury. Journal of Experimental Medicine 164:1171-1178, 1986.

- 24. **Hajjar DP**, AJ Marcus and KA Hajjar: Interaction of arterial cells II. Studies on the mechanisms involved in endothelial cell modulation of cholesterol metabolism in co-cultured smooth muscle cells. Journal of Biological Chemistry 262:6976-6981, 1987.
- 25. **Hajjar DP**, DB Boyd, PC Harpel and RL Nachman: Histidine-rich glycoprotein reverses the antiproliferative effect of heparin in arterial smooth muscle cells. Journal of Experimental Medicine 165:908-913, 1987.
- 26. Hajjar KA, **DP Hajjar**, and RL Nachman: Tumor necrosis factor-mediated increase of platelet-derived growth factor (PDGF) gene expression in human endothelial cells. Journal of Experimental Medicine 166:235-245, 1987.
- 27. **Hajjar DP**, KB Pomerantz, DJ Falcone and AJ Grant: Human herpes simplex virus infection in human arterial cells: Implications in Arteriosclerosis. Journal of Clinical Investigation 80:1317-1321, 1987.
- Coico LS, DP Hajjar, Hefton JM and KA Hajjar: Interaction of arterial cells. III. Stathmokinetic analyses of the effects of endothelial cells on smooth muscle cell proliferation. Journal of Cell Physiology 134:485-490, 1988.
- 29. Hariri RJ, **DP Hajjar**, ME Weksler, DR Alonso: Aging and Arteriosclerosis. II. Cell cycle kinetics of young and old rat arterial smooth muscle cells. American Journal of Pathology 131:132-136, 1988.
- Hajjar DP, IC Farber, and SC Smith: Oxygen tension within the arterial wall: relationship to altered bioenergetic metabolism and lipid accumulation. Archives of Biochemistry and Biophysics 262:375-380, 1988.
- 31. Pomerantz KB and **DP Hajjar**: Eicosanoid metabolism in cholesterol-enriched arterial smooth muscle cells: Altered arachidonate release with concomitant decreases in cyclooxygenase and lipoxygenase products. Journal of Lipid Research 30:1219-1233, 1989.
- Hajjar DP, GN Sando, AC Nicholson, KA Hajjar and B Summers: Decreased messenger RNA in herpesvirus-infected arterial smooth muscle cells: effects on cholesteryl ester hydrolase. Proceedings of the National Academy of Sciences 86:3366-3370, 1989.
- 33. Hariri RJ, **DP Hajjar**, JB Ghajar, and KB Pomerantz: Human glial cell production of lipoxygenasegenerated eicosanoids: a potential role in the pathophysiology of vascular changes following brain injury. Journal of Trauma 29:1203-1210, 1989.
- 34. **Hajjar DP**, AJ Marcus, and OR Etingin: Platelet-Neutrophil-Smooth Muscle Interactions: Inflammatory mediators such as the lipoxygenase-derived mono- and di-hydroxy acids activate arterial cholesteryl esterase by the cyclic AMP-dependent protein kinase cascade. Biochemistry 28:8885-889I, 1989.
- 35. Kaner RJ, A Baird, A Mansukhani, C Basilico, BD Summers, RZ Florkiewicz and **DP Hajjar**: Fibroblast growth factor receptor is a portal of entry for herpesvirus. Science 248: 1410-1413, 1990.

- 36. Etingin OR and **DP Hajjar**: Calcium channel blockers enhance cholesteryl ester hydrolysis and decrease cholesterol accumulation in human arterial tissue. Circulation Research 66:I85-190, 1990.
- 37. Etingin OR and **DP Hajjar**: Evidence for cytokine regulation of cholesterol metabolism in herpesvirusinfected arterial cells by the lipoxygenase pathway. Journal of Lipid Research 3I: 299-305, I990.
- 38. Pomerantz KB and **DP Hajjar**: High density lipoprotein-induced cholesterol efflux from arterial smooth muscle-derived foam cells: functional relationship of the cholesteryl ester cycle and eicosanoid biosynthesis. Biochemistry 29:1892-1899, 1990.
- Hajjar DP, KP Pomerantz and JW Snow: Structural analysis of the physical state of cholesteryl esters in smooth muscle derived-foam cells following herpesvirus-infection by differential scanning calorimetry. Biochemical Journal 268:693-697, 1990.
- 40. Etingin OR, RL Silverstein and **DP Hajjar**: Viral activation of the coagulation cascade: molecular interactions at the surface of infected endothelial cells. Cell 61:657-662, 1990.
- 41. Baird A, RZ Florkiewicz, PA Maher, RJ Kaner and **DP Hajjar**: Mediation of virion penetration into vascular cells by association of fibroblast growth factor. Nature 348:344-346, 1990.
- 42. Etingin OR, **DP Hajjar**, KA Hajjar and RL Nachman: Lipoprotein (a) modulates plasminogen activator inhibitor gene expression in endothelial cells: a potential mechanism in thrombogenesis. Journal of Biological Chemistry 266:2459-2465,1991.
- 43. Kim JA, **DP Hajjar** and JA Berliner: B-VLDL induced alteration of endothelial cell plasma membranes: biochemical effects and immunocytochemistry. Journal of Lipid Research 32:1125-1142, 1991.
- 44. Etingin OR, RL Silverstein and **DP Hajjar**: Identification of a monocyte receptor on herpesvirus- infected endothelium. Proceedings of the National Academy of Sciences 88:7200-7203, 1991.
- 45. Altieri DC, OR Etingin, **DP Hajjar** and TS Edgington: Structurally homologous ligand binding of integrin Mac-1 and viral glycoprotein C receptors. Science 254: 1200-1203, 1991.
- 46. **Hajjar DP**: Viral pathogenesis of atherosclerosis: impact of molecular mimicry and viral genes. American Journal of Pathology 139: 1195-1211, 1991.
- 47. **Hajjar DP** and KB Pomerantz: Molecular motions and thermotropic phase behavior of cholesteryl esters: a deuteron nuclear magnetic resonance (NMR) spectroscopy study. Biophysical Chemistry 43:255-263, 1992.
- 48. Nicholson AC, KB Pomerantz, OR Etingin, and **DP Hajjar**: Dihydropyridine calcium antagonists modulate cholesterol and eicosanoid synthesis. Journal of Cellular Biochemistry 49: 393-400, 1992.
- 49. Nicholson AC and **DP Hajjar**: TGF-ß1 upregulates LDL receptor mediated cholesterol metabolism in vascular smooth muscle cells. Journal of Biological Chemistry 267:25982-25987, 1992.

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- 51. Pomerantz KB, **DP Hajjar**, R Levi and SS Gross: Cholesterol enrichment of arterial cells upregulates cytokine-induced nitric oxide synthesis. Biochemical Biophysical Research Communications 191:103-109, 1993.
- 52. Etingin OR, RL Silverstein, and **DP Hajjar**: von Willebrand Factor mediates platelet adhesion to virallyinfected endothelial cells. Proceedings of the National Academy of Sciences 90:5153- 5156, 1993.
- 53. Kaner RJ, J Medina, AC Nicholson, R Ursea, SM Schwartz and **DP Hajjar**: Age-related differences in herpesvirus plaque formation in vascular cells. Circulation Research 73: 10-14, 1993.
- 54. Stopeck A, AC Nicholson, F. Mancini, and **DP Hajjar**: Transcriptional regulation of the low density lipoprotein receptor by cytokines. Journal of Biological Chemistry 268: 17489-17494, 1993.
- 55. Pomerantz KP and **DP Hajjar**: Eicosanoid metabolism in cholesterol-enriched arterial smooth muscle cells. Evidence for reduced post-transcriptional processing of cyclooxygenase I and reduced cyclooxygenase II gene expression. Biochemistry 32:13624-13635, 1993.
- 56. Lang SJ, M Giordano, L Staiano-Coico, and **DP Hajjar**: Biochemical and cellular characterization of cardiac valve tissue following cryo-preservation or antibiotic preservation. Journal of Thoracic and Cardiovascular Surgery 108: 63-67, 1994.
- 57. Hsu HY, AC Nicholson, and **DP Hajjar**: Basic FGF-Induced LDL receptor transcription and surface expression: signal transduction pathways mediated by FGF receptor tyrosine and protein kinases. Journal of Biological Chemistry 269:9213-9220, 1994.
- 58. **Hajjar DP**, HM Lander, SFA Pearce, RK Upmacis, and KB Pomerantz: Nitric oxide enhances prostaglandin-H synthase-1 activity by a heme-independent mechanism: evidence implicating nitrosothiols. Journal of the American Chemical Society 117: 3340-3346, 1995.
- 59. Hsu HY, RJ Kaner, AC Nicholson, KP Pomerantz and **DP Hajjar**: Altered cholesterol trafficking in herpesvirus-infected arterial cells: evidence for viral protein kinase-mediated cholesterol accumulation. Journal of Biological Chemistry 270: 19630-19637,1995
- 60. Donovan MJ, RC Miranda, R Kraemer, TA McCaffrey, **DP Hajjar** and BL Hempstead: Neurotropin and neurotropin receptors in vascular smooth muscle cells: regulation of expression in response to arterial injury. American Journal of Pathology 147:309-324, 1995.
- 61. Nicholson AC, KB Pomerantz, T. Fujimori, and **DP Hajjar**: Inhibition of cholesterol esterification in macrophages and smooth muscle foam cells: evaluation of ACAT inhibition. Lipids 30:771-774, 1995.
- 62. Kraemer R, T Scallen and **DP Hajjar**: Regulation of sterol carrier protein-2 (SCP-2) in cholesteryl esterenriched arterial smooth muscle cells. Journal of Lipid Research 36:2630-2638, 1995.

- Hsu HY, AC Nicholson and DP Hajjar: Inhibition of macrophage scavenger receptor activity by tumor necrosis factor (TNF) is transcriptionally and post-transcriptionally regulated. Journal of Biological Chemistry 271:7767-7773, 1996.
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